

Claims

1. An engine powerplant including intake and exhaust manifolds, and a turbocharger powered by gas flow at an outlet of the exhaust manifold for supplying inlet air to the intake manifold at a boosted pressure, further
5 comprising:
 - a supercharger driven directly or indirectly by the engine for establishing a high pressure air supply; and
 - at least one air injection pipe coupling said high pressure air supply to the exhaust manifold of said engine.
2. The powerplant of Claim 1, including an array of air injection pipes coupling said high pressure air supply to distributed locations of said exhaust manifold upstream of said outlet.
3. The powerplant of Claim 2, wherein said engine discharges exhaust gas into said exhaust manifold at a plurality of locations, and said array of air injection pipes injects air from said high pressure air supply into said exhaust manifold at said plurality of locations.
4. The powerplant of Claim 1, including an inlet air filter for filtering atmospheric air supplied to said turbocharger and said supercharger.
5. The powerplant of Claim 1, further comprising:
 - a hydraulic pump driven by said engine; and
 - a hydraulic motor driving said supercharger and powered by hydraulic fluid produced by said hydraulic pump.
6. The powerplant of Claim 5, wherein said supercharger is located remote from said engine.

7. The powerplant of Claim 1, further comprising:
a controller for controlling a flow of said hydraulic fluid to control an
operating speed of said supercharger.

8. The powerplant of Claim 1, further comprising:
a hydraulic pump driven by said engine; and
a hydraulic drive motor coupled to a vehicle drivetrain and powered by
hydraulic fluid produced by said hydraulic pump.

9. The powerplant of Claim 7, wherein said hydraulic pump has a
controlled pumping capacity, the powerplant further comprising:
a controller for controlling the engine speed to a low and substantially
constant value while controlling the pumping capacity of said hydraulic pump to
5 satisfy a requirement of said vehicle drivetrain.

10. An internal combustion engine including intake and exhaust
manifolds, further comprising:
a supercharger driven directly or indirectly by the engine for establishing
a high pressure air supply; and
5 at least one air injection pipe coupling said high pressure air supply to
the exhaust manifold of said engine.